

labour force surveys

information technology

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Analysis of Labour Force Survey Data for the Information Technology Occupations 2000–2004

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Highlights

This is the fourth in a series of regular reports prepared for the Software Human Resource Council on an Analysis of Labour Force Survey (LFS) data for the Information Technology (IT) occupations. The first report, released in November 2002, covered 31 months from January 2000 to July 2002. The second report, issued in May 2003, covered the same time period, but reflected a more complete database of IT workers. This third report, issued in February 2004, extended the coverage to 48 months, from January 2000 to December 2003. This fourth report adds an additional year and reflects the data from January 2000 to December 2004.

Here are some highlights from this fourth report:

- The IT labour force was about 500,000 workers in December 2004; it has been cycling modestly since the Summer of 2002 reaching a high of 516,000 workers in the Fall of 2002 and a low of 495,000 in the Fall of 2004.
- The Analyst labour force has exhibited strong secular growth: from a low of 80,000 workers in the Fall of 2000, it has grown to 137,000 workers at the end of 2004, challenging Technicians for the status as largest IT occupational labour force.
- The Technician labour force showed a decline in 2004 although it did maintain its position as the largest occupational group at 139,000

workers by the end of the year; this is considerably below the peak of 167,000 workers in mid-2001 and a more recent high of 164,000 in the Spring of 2004.

- The Programmer labour force was described in the last annual report as exhibiting a secular decline from a peak of 160,000 workers in early 2001 to 120,000 workers at the end of 2003; after a further decline to about 110,000 workers in early 2004, this labour force rebounded to 125,000 workers by the end of the year.
- The unemployment rate for all IT workers has been falling since mid-2004 and reached a level of 2.8 percent by the end of 2004. This is a tight labour market! The unemployment rate does exhibit cycles. From a low of about 2 percent in 2000, it grew to a high point of 5.5 percent by the Fall of 2001. Since then, it has cycled twice between a low of about 4 percent and a high of about 5.5 percent. From this peak in the middle of 2003, it has been trending downward, albeit with one cycle in the Spring of 2004.
- As noted in the previous two reports, there is remarkable stability in the profile data across the time period under review. That is to say, the characteristics of the IT labour force (age, gender, education, location, etc.) remain essentially the same year after year.

- Here are some findings regarding the profile of the IT labour force:
 - It is relatively young, with 45 percent less than 35 years old;
 - Males predominate, at 78 percent of the labour force;
 - It is highly educated, with about three-quarters of the labour force having a post-secondary degree;
 - Central Canada (Ontario and Quebec) has almost three-quarters of the labour force;
 - Jobs in IT are predominately full-time, at 96 percent of the total.
 - Jobs in IT are predominately permanent, at 93 percent of the total;
 - Five Industry sectors account for almost 80 percent of IT jobs: Professional, Scientific and Technical Services; Manufacturing; Information and Cultural Industries; Public Administration; and Finance and Insurance.
 - Only one in five workers is covered by a collective bargaining agreement;
 - The regular workweek (excluding paid overtime) is 31 to 40 hours for 85 percent of workers; and
 - The wage rate for IT occupations follows a natural progression, from Technicians at the low end, through Programmers, Analysts, and Engineers to Managers at the high end. There is evidence that average weekly wages (in nominal terms) have been rising over the five-year period.

Background

The Labour Force Survey (LFS) is a survey of about 55,000 households carried out monthly by Statistics Canada. The results of the survey are used to divide the working age population into three mutually exclusive categories: employed, unemployed and not in the labour force, and to provide descriptive data on each group.

The substantial increase in information technology (IT) in the last two decades of the Twentieth Century had significant impacts on the labour market. New IT occupations emerged such as e-Commerce Managers,

Software Engineers, Systems Security Analysts, Web Design Developers and Web Technicians. However, until recently, the occupational classification system for the LFS and for the Census did not reflect the emergence of these new occupations; instead it used three groups: computer engineers, systems analysts and computer programmers.

In 2002, Human Resources Development Canada (HRDC)¹ and the Software Human Resource Council (SHRC) identified 21 occupations within the new National Occupational Classifications System (NOC) that



comprise the IT labour force. SHRC supported this initiative through the development of its Occupational Skills Profile Model. SHRC contracted with Statistics Canada to recode the LFS data from January 2000 onwards using the 21 IT classifications. The recoding involved a review of the three occupations cited above, plus a number of

Table 1: Analysis of the LFS Data for the IT Occupations 2000–2004
Occupational Groupings

Group	NOC	Occupation
Managers	0213 6115	Computer and Information System Managers e-Commerce Managers
Engineers	2133 2147 2173	Electrical and Electronics Engineers Computer Engineers (excluding Software) Software Engineers
Analysts	21711 21712 21713 21721 21722	Information Systems Business Analysts Systems Security Analysts Information Systems Quality Assurance Analysts Database Administrators Database Administration Analysts
Programmers	21741 21742 2175	Computer Programmers Interactive Media Developers Web Design Developers
Technicians	22811 22812 2282 2283	Computer Network Technicians Web Technicians User Support Technicians Systems Testing Technicians

¹ Now Human Resources and Skills Development Canada (HRSDC).

others where it was thought IT workers might be found e.g., Electrical and Electronics Engineers, Telecommunications Carriers Managers, and Computer Operators. This recoding produced a new database describing the IT labour force.

In the fall of 2002, SHRC engaged Mr. William G. Wolfson of WGWServices Ltd. to prepare a report analyzing the IT labour force, utilizing this database for the period from January 2000 to July 2002. A first report was released in November 2002. Statistics Canada continued its work to identify additional IT workers from a variety of occupations for inclusion in the database. A revised database of the IT labour force was developed in the Spring of 2003. A second report dated May 2003 was prepared for SHRC using this more complete database for that same January 2000 to July 2002 time period. A third report for the three-year period from January 2000 to December 2003 was released in the Spring of 2004. The first three reports are available on the SHRC website at www.shrc.ca/lmi/lfs/data.html.

This fourth report covers now provides a further update to the end of 2004. As in the previous reports, this document contains the results of the analysis of 17 of the 21 occupations, compiled into five IT occupational groups, as shown in Table 1 above.

This report is divided into two parts:

- An *Overview of Labour Force Activity* that describes the trends in the size of the labour force and the unemployment rate for the entire IT workforce and each of the five occupational groups; and
- A *Profile of the IT Occupations* that details the characteristics and labour market experiences of the workers in the entire IT workforce and each occupational group.



Note to Readers: In this document, the terms “Total IT” as in Total IT Labour Force, and “All IT” as in All IT Occupations are used. In titles to Charts and Figures, the term “IT Occupations” can be found. All these terms refer to the sum of the five occupational groups comprising the 17 occupations listed above in Table 1. Subsequent reports analyzing the LFS might include additional occupations.

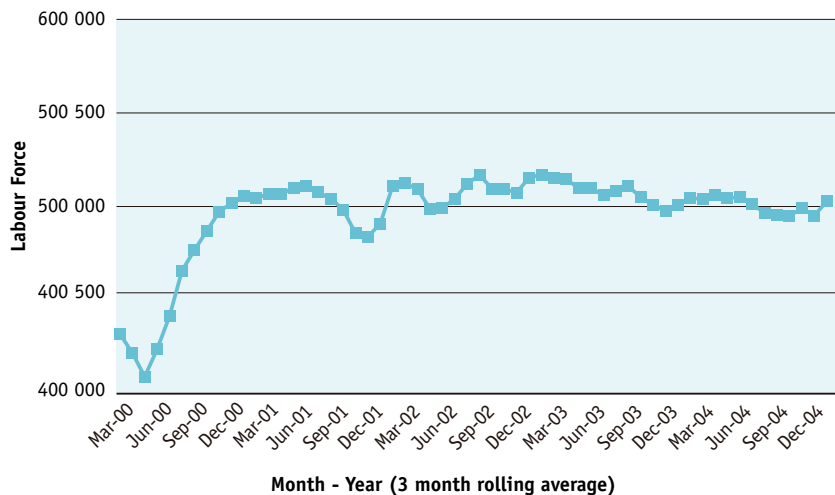
1. Overview of Labour Force Activity

This section contains an analysis of trends in the labour force and the unemployment rate, starting in January 2000 and ending in December 2004, for the Total IT Labour Force and each of the five occupational groups (Managers, Engineers, Analysts, Programmers, Technicians). As monthly data are often erratic, a three-month rolling average has been used to smooth the data series.

1.1 The Total IT Labour Force: Cycling Around 500,000 Workers Since Summer 2003

As shown in Figure 1, the Total IT labour force grew steadily from about 410,000 workers in the Summer of 2000 through to mid-2001 when it reached about 510,000 workers. From mid-2001 onwards, the IT labour force exhibited a cyclical pattern (down, then up for five cycles). At the end of 2001, it reached the low point of any cycle at about 485,000 workers. The growth spurt in two of the subsequent cycles generated a labour force at the peak of 516,000 workers (in August 2002 and January 2003). Since the Summer of 2003, the IT labour force has been cycling around 500,000 workers. At the end of 2004, the labour force stood at 502,000 workers.

Figure 1: Analysis of the LFS Data for the IT Occupations 2000–2003
Total IT Labour Force



1.2 Occupational Labour Forces: Exhibit Different Patterns Over Time

Figure 2 below shows trends in the labour force for each of the five occupational groups over the 60-month study period.

For most of the five-year period, Technicians and Programmers were the largest occupational groups, with between 120,000 and 160,000 workers each. There were more Analysts (ranging from 80,000 to almost 140,000 over the period) than Engineers (more

stable at roughly 65,000) throughout the entire period. Managers were the smallest occupational group at all times, at less than 40,000 workers for most of the period.

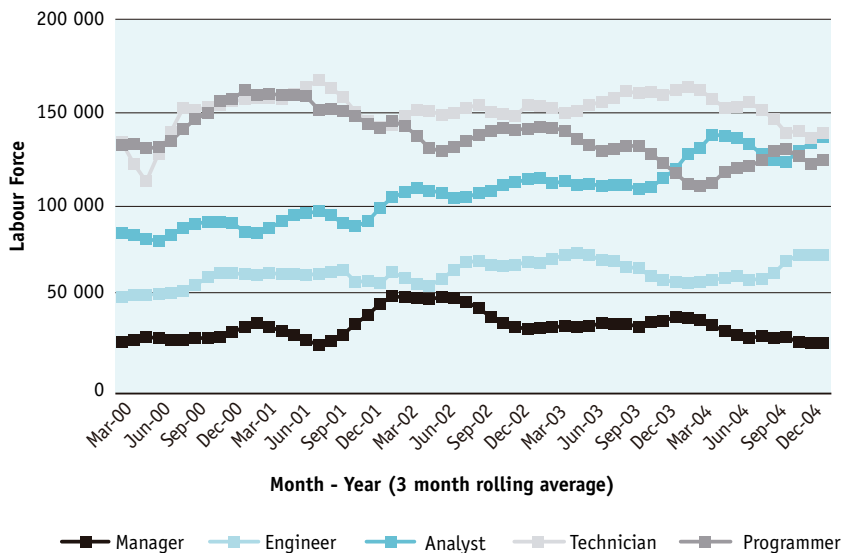
Here are some more detailed observations on each occupational group:

- The **Manager** labour force was about 28,000 workers at the beginning of the study period. It grew through the last half of 2001 to reach a peak of 50,000 workers through most of 2002. There has been a steady decline since then; by the end of the study period, the labour force was back to its original level of 28,000 workers.²

² Further work is underway to investigate the accuracy of the underlying dataset.

- The **Engineer** labour force has shown long periods of relative stability over the 60-month period. From January 2000 until the Summer of 2002, it was quite stable around 60,000 workers. There was modest growth through the Fall of 2002 followed by another period of stability at about 70,000 workers until mid 2003, at which time a downward trend became evident. Through the first half of 2004, there were about 60,000 workers once again. However, the last half of 2004 exhibited significant growth; by the end of the year, the labour force was heading towards an all-time high of 75,000 workers.
- The **Analyst** labour force has shown a long-term pattern of growth, with small short-term cycles around this steady growth rate. At the beginning of the study period, the labour force was 86,000 workers; by the end, it was 137,000 workers. During the period, there were five cycles (down, up), but the rebound in each case led to a new peak level. By December 2004 the Analyst labour force had become the second largest among the occupational groups with a trend line that suggested it would become the largest sometime during 2005.
- The **Programmer** labour force grew steadily from about 130,000 workers until it reached about 150,000 workers in the early Summer of 2001. Since then, the labour force has been trending downward, with some cyclical pattern around the trend line. It reached a low of about 110,000

Figure 2: Analysis of the LFS Data for the IT Occupations 2000–2004
Labour Force for the Five IT Occupational Groups



workers early in 2004, but there has been some growth since then to 125,000 workers at December 2004. This is 8,000 workers below the level at the beginning of the study period.

- The **Technician** labour force was the largest occupational group for most of the study period. This labour force reached a peak of about 165,000 workers in both the Summer of 2001 and the Spring of 2004. For most of the period, it cycled between 140,000 and 160,000 workers. From the Spring of 2004, it has been on a downward trend, ending the year slightly under 140,000 workers, but still the largest occupational group.



1.3 Unemployment Rate For All IT Occupations: Exhibits Cyclical Pattern

As shown in Figure 3 below, the unemployment rate for all the IT occupations as a whole has exhibited a cyclical pattern. The rate showed a steady decline to the end of 2000, reaching a very tight rate of 2 percent at the bottom, followed by a steady increase to the end of 2001 to a peak of 5.5 percent by the Fall of 2001. In 2002 and early 2003, there were two swift cycles down to about 4 percent followed in each case by a rise to about 5.5 percent. From mid-2003, the unemployment rate has been trending down. After reaching a low point slightly under 4% by the end of 2003, there was a modest uptick in the Spring of 2004, followed once again by the downward trend. By the end of 2004, the unemployment rate for all IT workers was 2.8%, a very tight labour market once again.

1.4 Unemployment Rate For Occupations: Some Mirror All IT

The analyses and graphs below are based on a comparison between the unemployment rate for all IT occupations and the unemployment rate for each of the occupational groups.

The **Manager** unemployment rate is typically below the average for all IT occupations, and showed more variability on certain occasions. The rate spiked on two occasions, the Fall of 2001 (to over 6 percent) and the Fall

Figure 3: Analysis of the LFS Data for the IT Occupations 2000–2004
Unemployment Rate: All IT Occupations

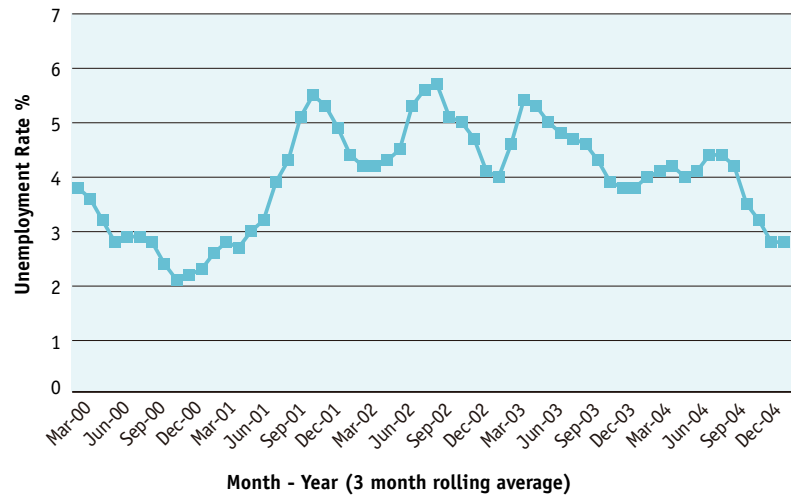
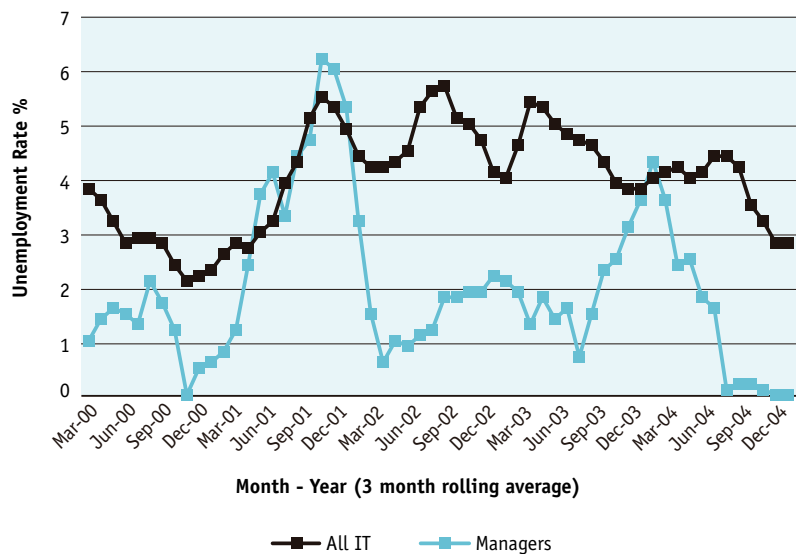


Figure 4: Analysis of the LFS Data for the IT Occupations 2000–2004
Unemployment Rate: Managers

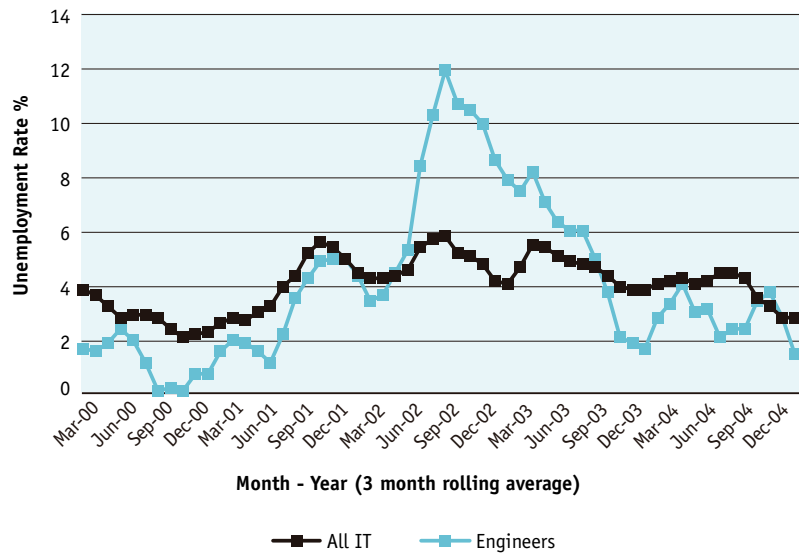


of 2003 (to over 4 percent), higher than the average for all occupations. At other times, the rate hovered at a very low level around 1 percent (and even lower), considerably below the average rate. The rate for the last half of 2004 was once again under 1 percent. See Figure 4.³

The **Engineer** unemployment rate was below the average for all IT occupations for about four of the five years under review. In the Fall of 2000, the rate was extremely low, less than 1 percent. In 2001, the rate started to grow until it exceeded the average for all occupations (4 percent) by the Spring of 2002. The rate spiked in 2002 to almost 12 percent in August 2002. The rate declined thereafter, and fell below the average rate about one year later in September 2003. It has continued to decline, with two short cycles in 2004. However, by the end of 2004, the rate was 1.5 percent, very close to the historic low point. See Figure 5.

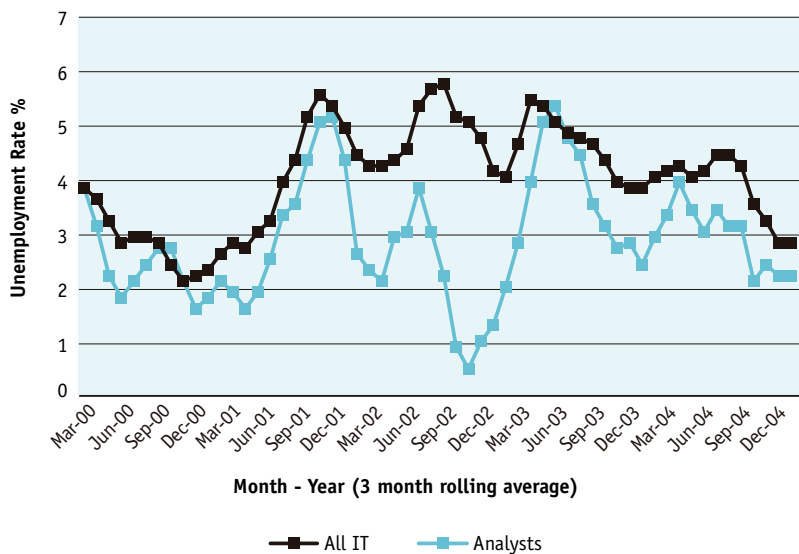
The **Analyst** unemployment rate mirrored the movement of the average for all IT occupations, albeit at a marginally lower rate (within one percentage point) for the many months in the five-year period. Two periods of exception stand out where the difference in rates, although not the direction, was considerably more than one percentage point. In 2002, the gap was more than three percentage points. In the Fall of 2003 and the Spring of 2004, there were months where the gap was growing and exceeded 1.5 percentage points. However, as 2004 came to a close, the traditional difference (within one percentage point) was seen again. See Figure 6.

**Figure 5*: Analysis of the LFS Data for the IT Occupations 2000–2004
Unemployment Rate: Engineers**



* In Figure 5, the scale on the vertical axis has a maximum value of 14%; for four other figures depicting unemployment rates (Figures 3, 4, 6, and 8), the scale has a maximum value of 7%; Figure 7 has a maximum value of 8%.

**Figure 6: Analysis of the LFS Data for the IT Occupations 2000–2004
Unemployment Rate: Analysts**



³ As noted earlier, further work is underway to investigate the accuracy of the underlying dataset for this occupational group; these results may be revised.

The **Programmer** unemployment rate also mirrored the average for all IT occupations, albeit at a somewhat higher rate (about 1 percentage point higher) for most of the period. Only for two brief periods, at the end of 2001 and in early 2003, did the unemployment rate for Programmers fall below the average for all IT occupations. At the end of the survey period, the rate for Programmers was once again above the average for all IT occupations, at 4.2 percent vs. 2.8 percent. See Figure 7.

The **Technician** unemployment rate mirrored the average for all IT occupations, but remained above the average of all IT occupations in every month from April 2000 onwards, except for two months in the Summer of 2002. See Figure 8.



Figure 7: Analysis of the LFS Data for the IT Occupations 2000–2004
Unemployment Rate: Programmers

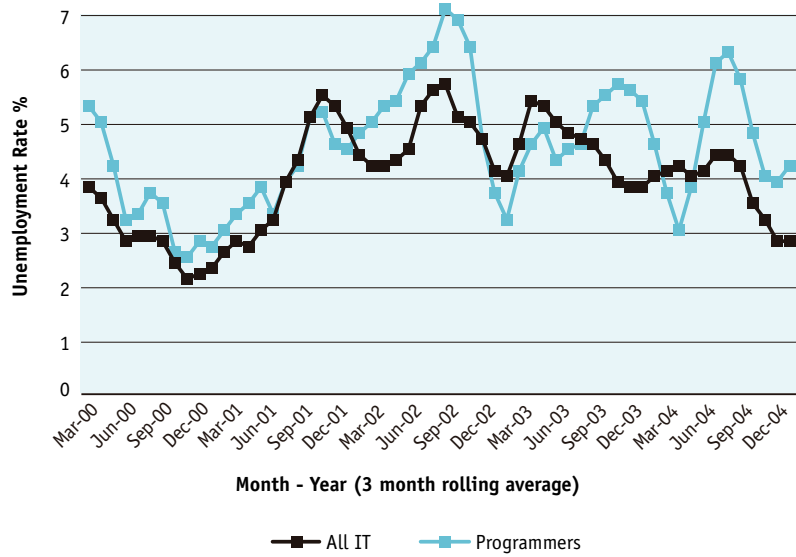
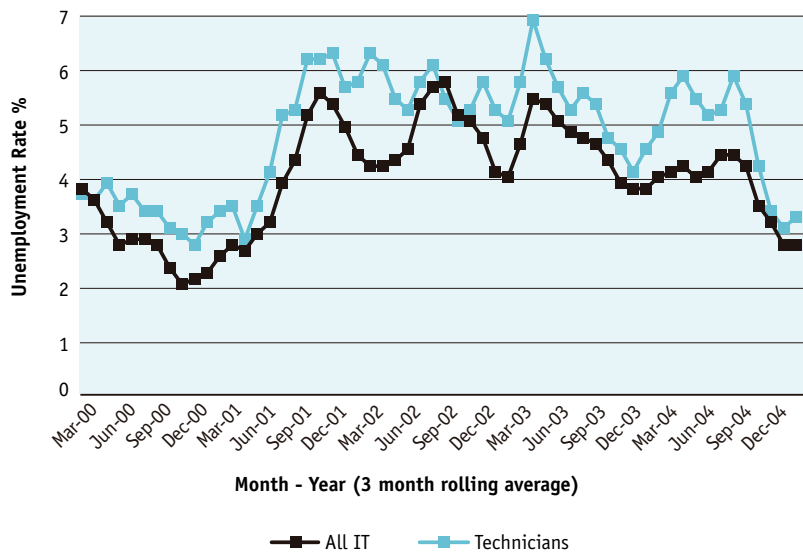


Figure 8: Analysis of the LFS Data for the IT Occupations 2000–2004
Unemployment Rate: Technicians



2. Profile of the IT Labour Force

This section of the report presents an analysis of the characteristics of the IT labour force (age, gender, education, location, etc.) with particular emphasis on comparisons among the five occupational groups.

The first finding of some note is that, for almost all profile items, there is very little variation in the results over the five-year period. For instance, the percentage of the IT labour force working full-time was 96.4 percent (2000), 96.0 percent (2001), 95.5 percent (2002), 95.3 percent (2003) and 95.7 percent (2004). To cite another example, the percentage of males in the IT labour force was 78.1 percent, 78.2 percent, 78.1 percent, 77.2 percent and 78.4 percent respectively. Consequently, the profile results are presented in this section as the average of the five years. With so little variability over time, there is essentially no information loss created thereby; when, in rare cases, some trend in the data is clearly evident, it is noted below.

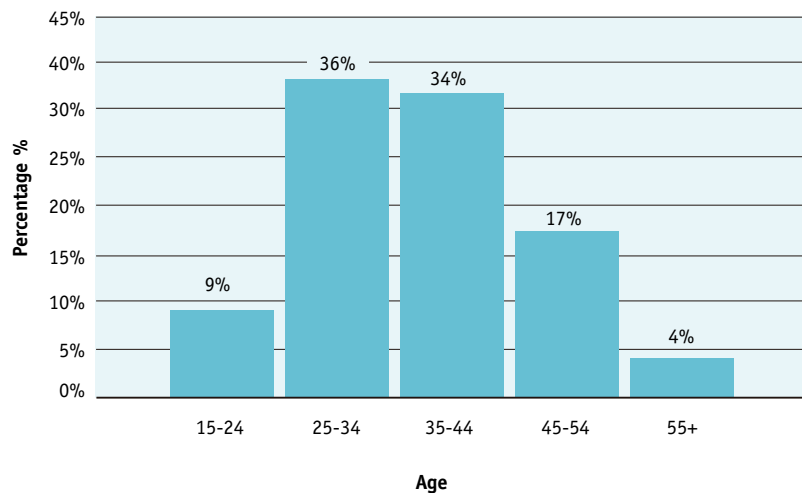
This report updates the profile information provided in the Update Report of February, 2004 covering the four year period from 2000 to 2003. However, in almost all cases, there are no significant differences in the findings: most figures have been altered, if at all, by 1 or 2 percentage points. In fact, we now have five years of data that show the profile of IT workers to be very stable over time on many dimensions.

2.1 Age: The IT Labour Force Is Young

IT is a young occupation, with 45 percent of workers under 35 years of age. Another 34 percent of workers are in the 35 to 44 age group, leaving just 21 percent in the older worker category, from age 45 onwards. See Figure 9.

A further analysis of the age profile by IT occupational groups shows that Programmers and Technicians are somewhat younger and that Managers and Analysts are somewhat older than the average IT worker. See Table 2.⁴ Over one-half of Programmers and Technicians are under 35 years of age. Almost 30 percent of Managers and Analysts are over 44 years of age.

Figure 9: Analysis of the LFS Data for the IT Occupations 2000–2004
Profile: Age



Note to Readers: The responses to some questions in the LFS are coded into categories (e.g. salary ranges, age ranges) as established by Statistics Canada. Consequently, it is not possible to calculate an accurate average figure (e.g., average salary or average age). Instead, the results are presented in ranges.

⁴ In this document, totals may not add to 100 percent due to rounding of cell data.

Table 2: Analysis of the LFS Data for the IT Occupations 2000–2004

Profile: Age

Group	15-24	25-34	35-44	45-54	55+
All IT	9%	36%	34%	17%	4%
Managers	2%	30%	39%	23%	6%
Engineers	5%	36%	38%	16%	5%
Analysts	4%	31%	37%	21%	7%
Programmers	11%	40%	32%	14%	3%
Technicians	14%	37%	30%	16%	3%

2.2 Gender: The IT Labour Force Is Predominately Male

As shown in Figure 10, the IT occupations are predominately staffed by male workers. Less than one-quarter of workers are female.

Males have even greater dominance in the Engineering occupation, where they comprise 88 percent of the workforce. Females have above average⁵ representation in one occupation: Analysts. See Table 3.

Figure 10: Analysis of the LFS Data for the IT Occupations 2000–2004
Profile: Gender

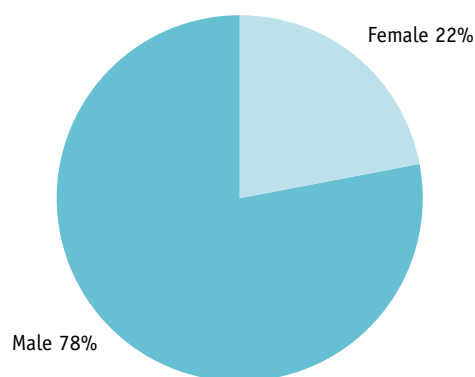


Table 3: Analysis of the LFS Data for the IT Occupations 2000–2004
Profile: Gender

Group	Male	Female
All IT	78%	22%
Managers	77%	23%
Engineers	88%	12%
Analysts	73%	27%
Programmers	77%	23%
Technicians	79%	21%

⁵ “Above average” refers to a comparison to all IT occupations; females in these two occupations are still far below the 50 percent required for an even split between genders.

2.3 Education Level: The IT Labour Force Is Well Educated

The IT workforce is well educated, with more than three-quarters having attained a post-secondary degree in all occupations except Technicians. Engineers are particularly highly educated, as one would expect, with almost 90 percent having a post-secondary degree. See Figure 11.

Table 4 below provides additional detail on the high levels of educational attainment. Particularly noteworthy is the high percentage of post-graduate degrees in three occupations: Engineers (27 percent), Managers (18 percent), and Analysts (15 percent). The percentage of Programmers with a post-graduate degree is lower, at 13 percent. Only the Technicians group is below 10 percent.



Figure 11: Analysis of the LFS Data for the IT Occupations 2000–2004
Educational Profile: Post-Secondary Graduate (College, University, Post-Graduate)

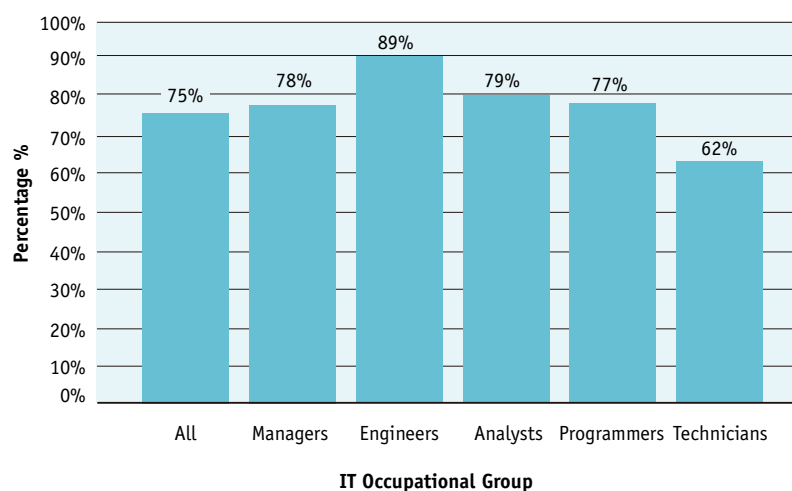


Table 4: Analysis of the LFS Data for the IT Occupations 2000–2004
Profile: Educational Attainment

Group	1 Sec/Trade	2 College	3 Some U	4 Bachelor	5 Post-Grad
All IT	15%	27%	11%	35%	13%
Managers	11%	22%	11%	39%	18%
Engineers	5%	11%	6%	51%	27%
Analysts	11%	23%	10%	41%	15%
Programmers	13%	26%	10%	39%	13%
Technicians	24%	38%	14%	18%	6%

- 1 Secondary School Completion or Less, plus Trade Certificate / Diploma
- 2 Community College, CEGEP
- 3 Some Post-Secondary, University Diploma Below Bachelors
- 4 Bachelors Degree
- 5 MA or Ph D

We turn now to the “typical” level of educational achievement, as measured by the modal level. (The educational category with the highest percentage of workers is the modal level.) For IT workers as a whole, the modal level is a Bachelor’s degree. This is the case for all occupational groups, except Technicians, where the modal level is a College diploma. See Table 5.

For all occupational groups, the next modal level is a post-secondary degree. For Engineers, it is higher than Bachelor’s i.e., a post-graduate degree.

2.4 Location: The IT Labour Force Is Concentrated in Central Canada

Almost three-quarters of IT workers are located in Ontario and Quebec. Ontario alone has one-half of the workforce. See Figure 12.

Ontario’s predominance in the IT sector is further exhibited by the high percentage of Engineers (57 percent) and Analysts (53 percent) located in that province. Indeed, for every occupational group except Technicians, Ontario has nearly half or more of the labour force. See Table 6.

Table 5: Analysis of the LFS Data for the IT Occupations 2000–2004
Educational Profile: Modal Achievement Level

Group	Modal Education Level	Next Modal Level
All IT	Bachelor	College
Managers	Bachelor	College
Engineers	Bachelor	Post Graduate
Analysts	Bachelor	College
Programmers	Bachelor	College
Technicians	College	Bachelor

Figure 12: Analysis of the LFS Data for the IT Occupations 2000–2004
Profile: Location

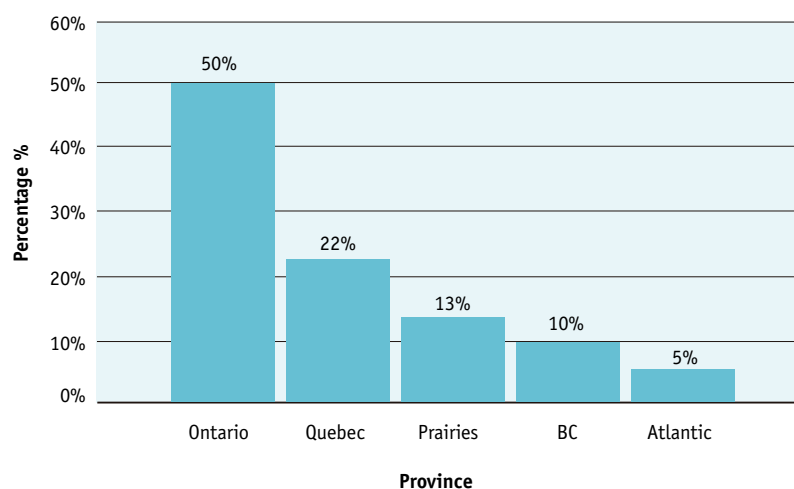


Table 6: Analysis of the LFS Data for the IT Occupations 2000–2004
Profile: Location

Group	Atlantic	Quebec	Ontario	Prairies	BC
All IT	5%	22%	50%	13%	11%
Managers	4%	23%	50%	11%	12%
Engineers	4%	19%	57%	10%	11%
Analysts	3%	23%	53%	13%	8%
Programmers	4%	23%	49%	13%	11%
Technicians	7%	22%	45%	15%	11%

2.5 Job Status: The IT Labour Force Is Predominately Full-Time

Full-time work is defined by Statistics Canada as working more than 30 hours per week. Almost all workers in the IT labour force are full-time, with only 4 percent working less than 30 hours per week. See Figure 13.

As would be expected, Managers are almost exclusively full-time workers, with only 2 percent stating they work part-time. Engineers are also almost exclusively (99 percent) full-time workers. Only small percentages of the other occupations work part-time. See Table 7.

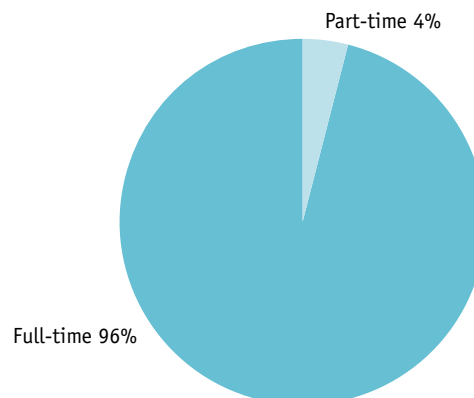
2.6 Job Permanency: Almost All Workers Are In Permanent Jobs

The Labour Force Survey asks respondents the following question: “Is your job permanent, or is there some way that it is not permanent? (e.g., seasonal, temporary, term, casual, etc.)” Readers will note that the question does not prompt for the possibility of contract employment. However, Statistics Canada provided data for the following non-permanent categories:

- seasonal;
- temporary, term or contract;
- casual;
- work done through a temporary help agency; and
- other.

As shown in Figure 14, 6 percent of the IT workforce in the LFS indicated that they were temporary, term or contract employees (labelled as “contract”).

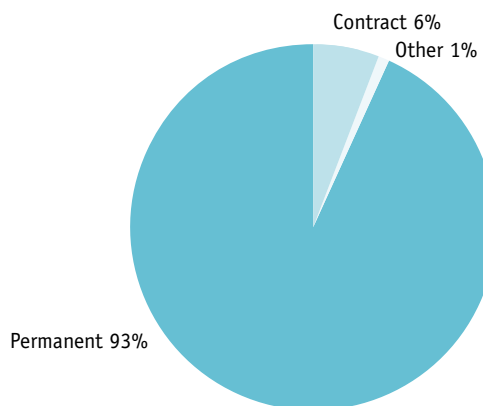
**Figure 13: Analysis of the LFS Data for the IT Occupations 2000–2004
Profile: Full-Time vs. Part-Time**



**Table 7: Analysis of the LFS Data for the IT Occupations 2000–2004
Profile: Full-Time vs. Part-Time**

Group	Full-Time	Part-Time
All IT	96%	4%
Managers	98%	2%
Engineers	99%	1%
Analysts	95%	5%
Programmers	96%	4%
Technicians	94%	6%

**Figure 14: Analysis of the LFS Data for the IT Occupations 2000–2004
Profile: Permanent vs. Contract**



According to the LFS, Managers and Engineers describe themselves almost exclusively as permanent employees. Some Programmers and Technicians are on contract or other non-permanent arrangements; however, these account for less than 10 percent of the labour force in each case. See Table 8.

2.7 Job Tenure Trend: Fewer Short Tenure and More Long Tenure

Job tenure is defined as the number of consecutive months a person has worked for the current employer (or, if employed within the previous twelve months, the most recent employer). The LFS data were provided in annual categories (i.e., 1-12 months; 13-24 months; etc.) Unlike the other profile items, job tenure for the entire IT workforce does show some trends over time, as shown in Table 9 below.

The percentage with one to two years (up to 24 months) of job tenure has fallen from about 40% in 2000 to less than 30% in 2004. On the other hand,

Table 8: Analysis of the LFS Data for the IT Occupations 2000–2004 Profile: Permanent vs. Contract

Group	Permanent	Contract	Other
All IT	93%	6%	1%
Managers	97%	3%	
Engineers	96%	3%	1%
Analysts	94%	5%	1%
Programmers	91%	8%	1%
Technicians	90%	8%	2%

the percentage with longer tenure, more than four years, has increased from about 40% in 2000 to over 50% in 2004. In the middle, the percentage with tenure of three to four years has remained more or less stable at about 20% of the workforce. The pattern shown in the table above suggests that the longer an IT worker is in a job, the more likely the worker is to stay in it, particularly after reaching tenure of four years.

The 2004 year exhibited a marked change from the past: for the first time in the study period, every occupational group had over 40% of its members in the longest tenure category (over 60 months). Programmers and Analysts have almost 50% of members in this

category. It would seem that there is now greater stability of employment in the IT labour market.

2.8 Industry Sectors: Five Industries Account For Most Employment

As shown in Table 10, five Industry sectors account for almost 80 percent of IT jobs. They are:

- Professional, Scientific and Technical Services;
- Manufacturing;
- Information and Culture Industries;

Table 9: Analysis of the LFS Data for the IT Occupations 2000–2004 Profile for All IT Occupations: Job Tenure

	1-12 Months	13-24 Months	25-36 Months	37-48 Months	49-60 Months	>60 Months
2000	24%	15%	13%	8%	5%	36%
2001	25%	15%	11%	10%	6%	34%
2002	19%	16%	12%	10%	7%	37%
2003	18%	12%	12%	10%	8%	40%
2004	17%	10%	9%	10%	8%	46%
Trend	Falling	Falling	Stable ⁶	Stable	Rising	Rising ⁷
	Falling		Stable		Rising	

⁶ There was a significant drop in the “25-36 months” category in 2004; it is to be seen if this level is maintained in 2005. In the meantime, the best descriptor over the five-year time period appears still to be “stable”.

⁷ There was also a significant increase in tenure for the “greater than 60 months” category. Once again, it remains to be seen if this level will be maintained in 2005. However, the trend is clear: a rising percentage for this category.

Table 10: Analysis of the LFS Data for the IT Occupations 2000–2004
Profile: Industry Sectors

Group	Prof Sci Tech	Manuf	Public Admin	Info & Culture	Fin & Ins	Total
All IT	43%	13%	9%	8%	7%	79%
Managers	47%	8%	11%	11%	9%	85%
Engineers	36%	35%	3%	10%	2%	85%
Analysts	56%	6%	11%	6%	8%	88%
Programmers	51%	11%	8%	7%	8%	85%
Technicians	28%	10%	11%	10%	7%	65%

- Public Administration; and
- Finance and Insurance.

Professional, Scientific and Technical Services is the largest industry sector for all IT occupations. Engineers have a significant percentage (35 percent) of their employment in Manufacturing. Technicians are more broadly distributed across the economy, as these five industry sectors account for only 65 percent of their employment.

2.9 Unionization: One In Five Workers Is Covered By A Union CBA

About 20 percent of the IT labour force are covered by a union's Collective Bargaining Agreement (CBA). However only 17 percent are actually union members, with the remainder covered by the CBA even though they themselves are not members. See Figure 15.

As indicated in Table 11, Managers and Engineers show low rates of unionization, whereas Analysts and Technicians show relatively higher rates.

Figure 15: Analysis of the LFS Data for the IT Occupations 2000–2004
Profile: Union Membership

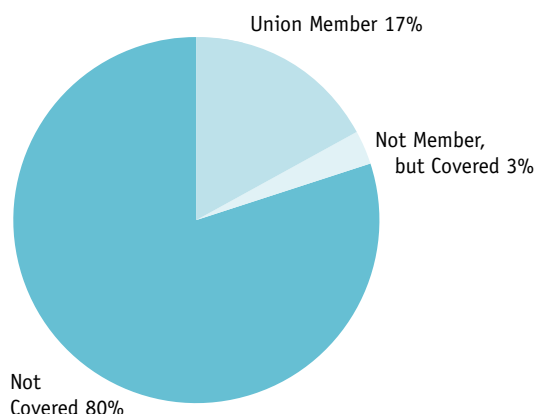


Table 11: Analysis of the LFS Data for the IT Occupations 2000–2004
Profile: Union Membership

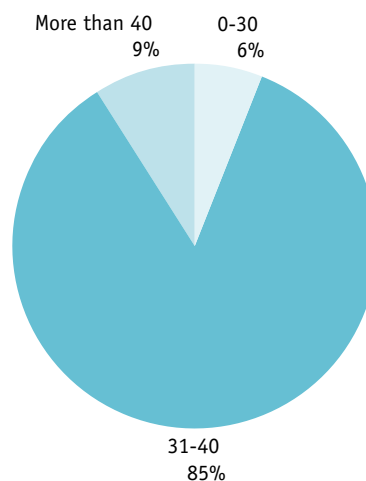
Group	Union Member	Not, But Covered	Not Covered
All IT	17%	3%	80%
Managers	10%	3%	88%
Engineers	13%	3%	85%
Analysts	19%	2%	79%
Programmers	15%	3%	82%
Technicians	23%	2%	75%

2.10 Regular Hours Worked Per Week⁸: Most Work 31 to 40 Hours Weekly

We saw earlier that most of the IT labour force is employed full-time. It is not surprising therefore that only 6 percent have a regular workweek of less than 30 hours per week. By far the majority of workers, a full 85 percent, indicate a regular workweek between 31 and 40 hours. Only 9 percent of the IT labour force has a workweek of more than 40 hours per week. See Figure 16.

A long workweek (defined here as more than 40 hours per week with no additional pay) is most heavily concentrated among Managers, 20 percent of whom report working beyond 40 hours. See Table 12. The other IT occupations show a consistent pattern at about 10 percent of workers exceeding a regular workweek of 40 hours, with Analysts being somewhat higher, and Technicians somewhat lower than that figure.

Figure 16: Analysis of the LFS Data for the IT Occupations 2000–2004
Profile: Hours In Regular Workweek



Analysts, Programmers and Technicians also show slightly higher percentages who have a regular workweek of 30 hours or less, once again a reflection of the higher proportion of part-time

workers in those occupations. On the other hand, Engineers are most likely to have a regular workweek between 31 and 40 hours.

Table 12: Analysis of the LFS Data for the IT Occupations 2000–2004
Profile: Hours In Regular Workweek

Group	0-30	31-40	41-50	51-60	60 +
All IT	6%	85%	7%	2%	1%
Managers	3%	78%	11%	7%	2%
Engineers	2%	89%	7%	2%	1%
Analysts	7%	81%	8%	3%	1%
Programmers	6%	86%	6%	2%	1%
Technicians	7%	87%	5%	1%	1%

⁸ The term “regular hours worked per week” or “regular workweek” refers to the number of paid hours worked weekly, excluding paid overtime. The November 2002 and May 2003 reports described this data series as “total hours worked per week” and described hours in excess of 40 per week as “overtime”. These two reports should have described the total hours as the “regular workweek” and described hours in excess of 40 per week as “unpaid overtime” as this data series does not include paid overtime.

2.11 Wages Paid Per Week: The Wage Rate Varies By IT Occupation

There is a clear progression in nominal wages paid, with Managers drawing the highest, followed by Engineers, Analysts, Programmers and Technicians in that order. One way to illustrate the ranking is through the modal salary range, as shown in Table 13.

The data on weekly wages, unlike most of the other profile elements, do exhibit some evidence of trends, as might be expected over a five-year period.

- The percentage of Managers in the highest income category (more than \$1600 per week) rose in the 2000-2002 time period encompassing three years. The percentage in this category has remained steady since then.
- The percentage of Engineers in their modal range of \$1201-\$1400 per week category rose in the first three years, and then began to fall as proportionately more Engineers entered higher categories.
- The percentage of Analysts in their modal range of \$1001-\$1200 has been falling, while the percentage in the next (higher) wage category has been rising.
- The percentage of Programmers in their modal range of \$801-\$1000 per week has been steady, while proportionately more Programmers enter the next (higher) wage category.

**Table 13: Analysis of the LFS Data for the IT Occupations 2000–2004
Profile: Weekly Wages**

Group	Modal Salary Range	Modal Category as a % of Total Group
All IT	\$801-\$1000	21%
Managers	> \$1600	28%
Engineers	\$1201-\$1400	18%
Analysts	\$1001-\$1200	20%
Programmers	\$801-\$1000	26%
Technicians	\$601-\$800	25%

- The percentage of Technicians in their modal range of \$601-\$800 per week was steady for the first three years of the period, but declined in the fourth and fifth years, as more Technicians moved into the next (higher) wage category.

Put another way, it is estimated that the average annual wage income of each of the IT occupations has been rising over the five-year time period. The only exception might be the Manager group since 2003.



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